

# How to Upskill for Digital Transformation: a Play-by-Play Guide

*November 12, 2019*

# Agenda

November 12, 2019

2:00 PM EST



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Enterprise Content  
Strategy Manager



**Kyle Clark**

Senior Skills  
Transformation  
Consultant

## Digital transformation and the learning landscape

Global challenges and opportunities

Why learning matters

## Essential skills for digital transformation

The Essential Skills Map for Digital Transformation

Essential skills by industry

## How to build the skills you need

Plan

Measure

Curate

Learn

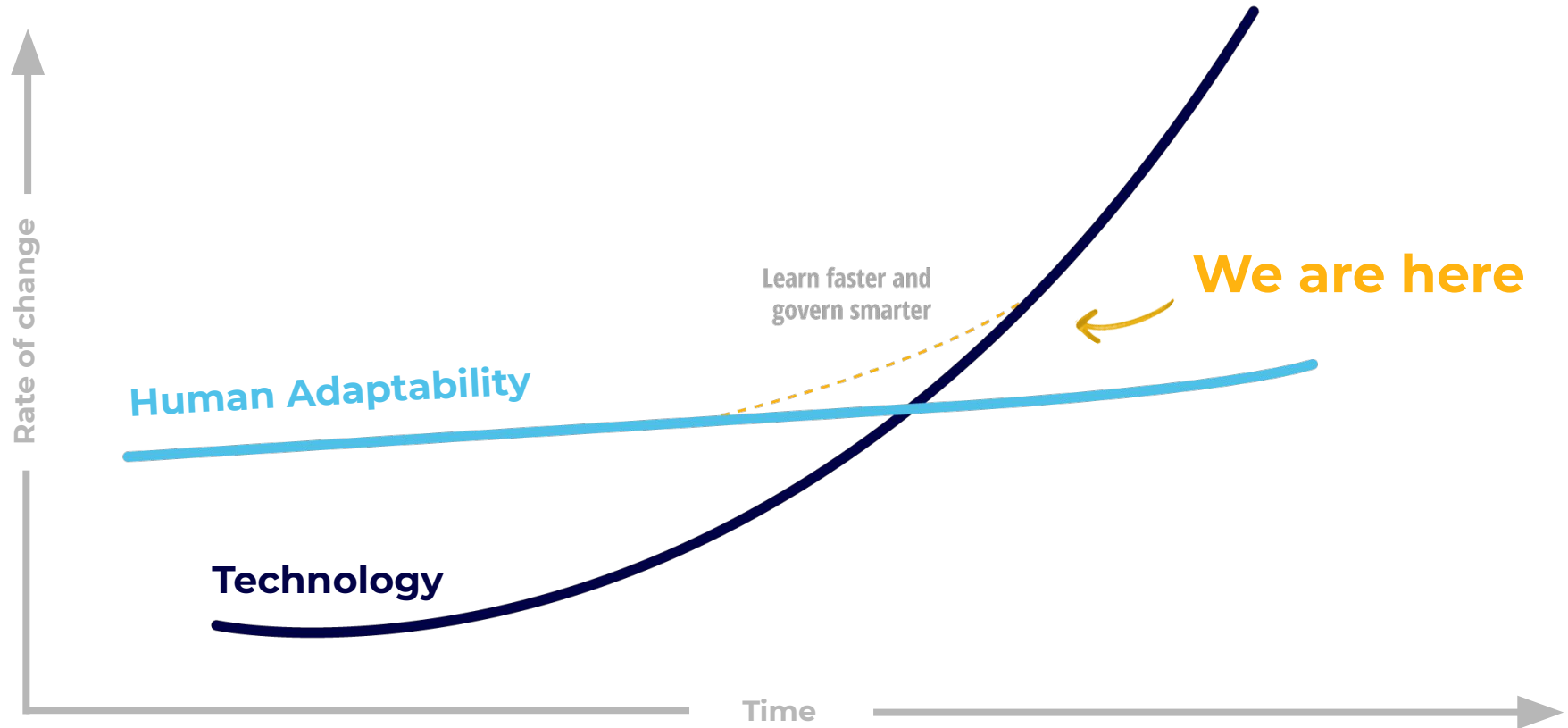
## Q&A



# Digital transformation and the learning landscape



# Technological change is outpacing humanity



# This is what we are hearing from business leaders:

“Digital business models are **taking over** our industry.”

“We can’t hire enough **data scientists**. And we need to build fluency in **emerging tech**.”

“What are the **most relevant skills** right now?”



# Global Megatrends in Health & Nutrition

Attractive Macro Drivers of Our Businesses

Megatrends through 2050

Societal Needs

Our Mission

## Aging Population



People 60+ more than doubling<sup>1</sup>

>20% of total population<sup>1</sup>

Preserve and restore health

## Growing Population

+2.2bn people<sup>1</sup>



+50%

more food and feed required to meet growing demand<sup>2</sup>

Secure sufficient supply of quality food

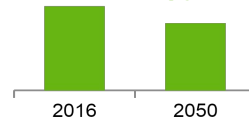
## Pressure on Ecosystems



-17%

Harvest losses from climate change<sup>3</sup>

-20%



Significant loss in arable land per capita<sup>4</sup>

Use natural resources more efficiently and responsibly

We leverage science to address these societal needs – with the ultimate goal to improve people's lives.

Thus we support the **UN Sustainable Development Goals** “Zero hunger” and “Good health and wellbeing.”





# Bayer Data Academy Program

Develop data science skills across Bayer Crop Science

## Bayer Internal Strategy



## Coursera Courses



Machine Learning

by Andrew Ng



deeplearning.ai

Data Science Math Skills

Duke University

COURSE

Practical Machine Learning

Johns Hopkins University

COURSE

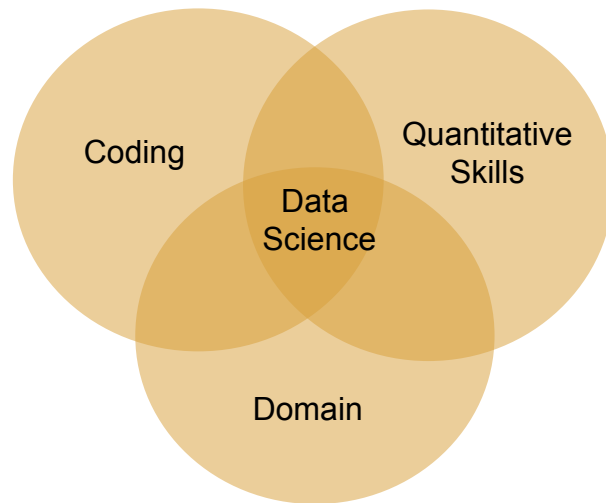
Executive Data Science

Johns Hopkins University

SPECIALIZATION



## Data Science Skills





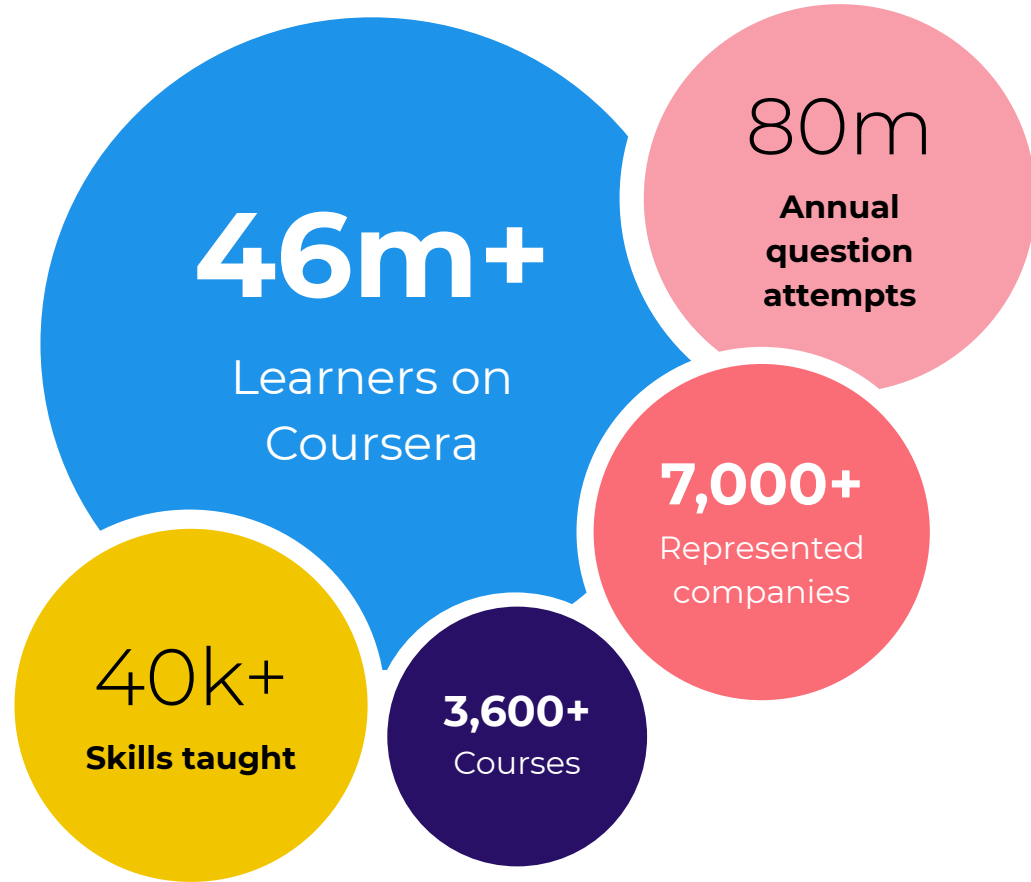
# Essential skills for digital transformation



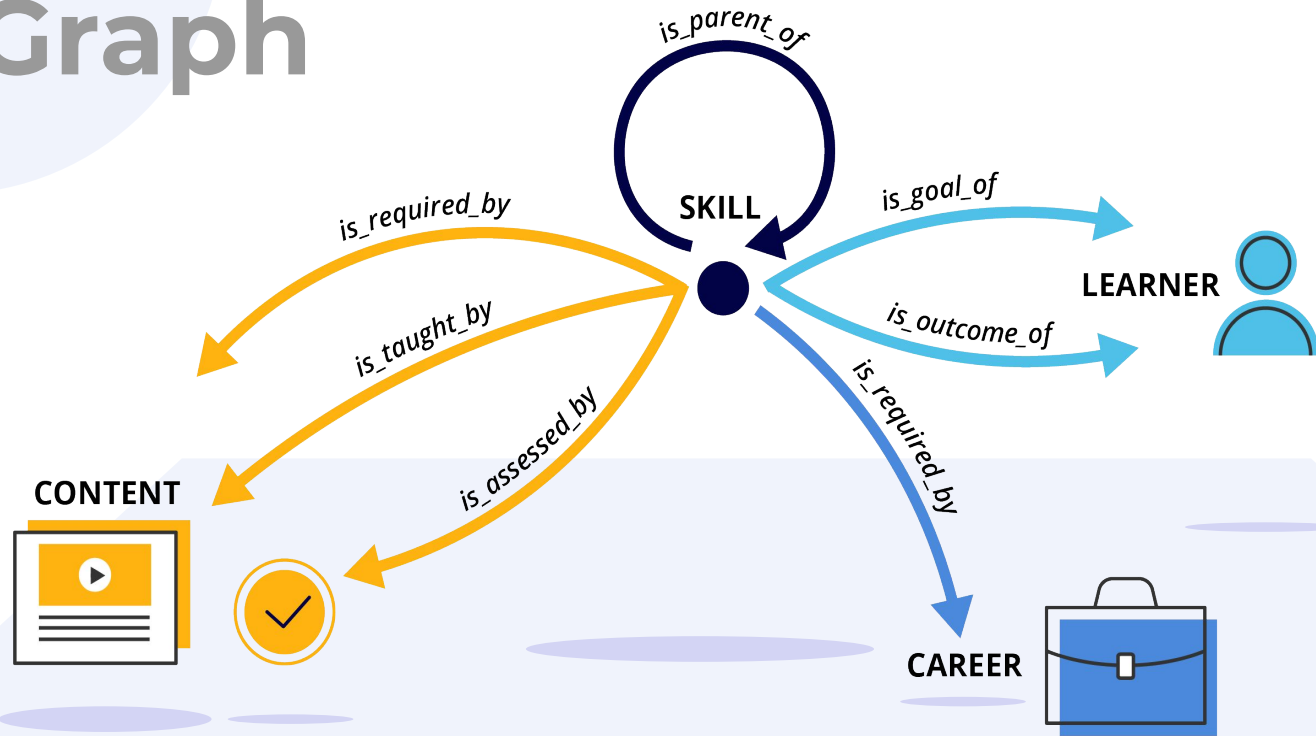


# The world's largest learning platform delivers insights on the skills of today and tomorrow.

As the largest online learning platform in the world, Coursera leverages data on the trends, gaps, and benchmarks for thousands of companies & millions of learners.



# Skills Graph



# Essential Skills Map for Digital Transformation

	Engineering	Data Science	Product	Finance	Marketing	Managers	Sales
Business Skills	Agile Management Leadership Product Management	Business Case Dev. Project Planning Leadership	Agile Management Product Management Disruptive Innovation	Mathematical Finance Financial Modeling Financial Engineering	Digital Marketing Digital Strategy Social Media	Leadership Change Management Design Thinking	Pricing Negotiation Business Analytics
Tech Skills	Debugging Algorithms Cloud Computing	NLP Sentiment Analysis Deep Learning	User Experience Design User Research Agile Software Dev.	Microsoft Excel VBA Algorithmic Trading Visual Analytics	Agile Software Dev. Web Analytics SEO	Cyber Security Artificial Intelligence Emerging Tech	Network Software Networking Hardware Computer Troubleshooting
Data Skills	Python Machine Learning Big Data	Python Tensorflow Machine Learning	Big Data SQL Data Visualization	Forecasting Business Analytics Data Visualization	Big Data Marketing Analytics SQL	Cloud Computing Analytics Data Management	Internet Privacy Data Analysis Big Data

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Data Skills	Python Machine Learning Big Data	Python Tensorflow Machine Learning	Big Data SQL Data Visualization	Forecasting Business Analytics Data Visualization	Big Data Marketing Analytics SQL	Cloud Computing Analytics Data Management	Internet Privacy Data Analysis Big Data

# Industry Deep Dives

- Financial Services
- Telecom
- Manufacturing
- Professional Services
- Tech Sector

- Coursera has conducted a deep dive into 5 industries, highlighting the key skills across 7 functions
- Similarities exist across industries, but each industry has unique skills critical to successfully navigating digital transformation



# How to build the skills you need





# Companies that are upskilling for digital transformation face four challenges.

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**Plan:** No clear plan for skills transformation.

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**Measure:** No defined measurement of success or ROI.

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**Curate:** Difficulty selecting and recommending the right content.

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**Learn:** Lack of sustained engagement to ensure success.

# Plan

## PART 1

**Why** we're doing this: Crafting your Northstar Statement

Your 1st KPI

Your 2nd KPI

Your 3rd KPI

## PART 2

**The Who & What:** Prioritizing the Essential Skills Map



## PART 3

Personal "me"

1

2

Structural "us"

3

4

Social "culture"

5

6

## PART 1

## PART 2

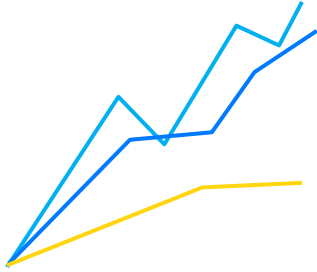
## Financial Services

Develop broad proficiency in Python programming and data analysis to democratize the use of in-house, custom models across the business.

	Engineering	Data Science	Product	Finance	Marketing	Managers	Sales
Business Skills	Devops Statistical Analysis Blockchains	Data Manipulation Statistical Analysis A/B Testing	Concept Testing Customer Value Proposition Digital Strategy	Financial Accounting Financial Modeling Financial Markets	Tableau Software Predictive Analytics Digital Marketing	Business Operations Business Process Mapping Consumer Confidence Index	Financial Markets Pricing Cash Flow Forecasting
Tech Skills	Application Programming Interfaces Computer Architecture Cloud Computing	Natural Language Processing Data Structure Computer Vision	Business Model Canvas E-Commerce User Experience	Microsoft Excel VBA Database Index Digital Forensics	Visual Analytics Query Language Agile Software Development	Decision Tree Monte Carlo Method Cryptography	Game Theory Network Theory Cryptography
Data Skills	Deep Learning Machine Learning Tensorflow	Python Programming Tensorflow Machine Learning	Python Programming Big Data SQL	Forecasting Sensitivity Analysis Statistical Programming	SQL Big Data Python Programming	Sensitivity Analysis Big Data Forecasting	Financial Data Analysis Sensitivity Analysis Forecasting



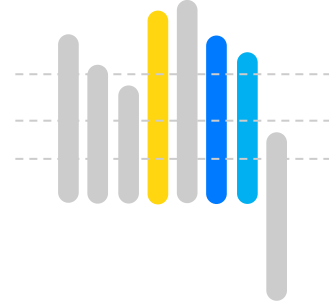
# Measure



Understand your org's level of skill mastery, with new and classic learning metrics

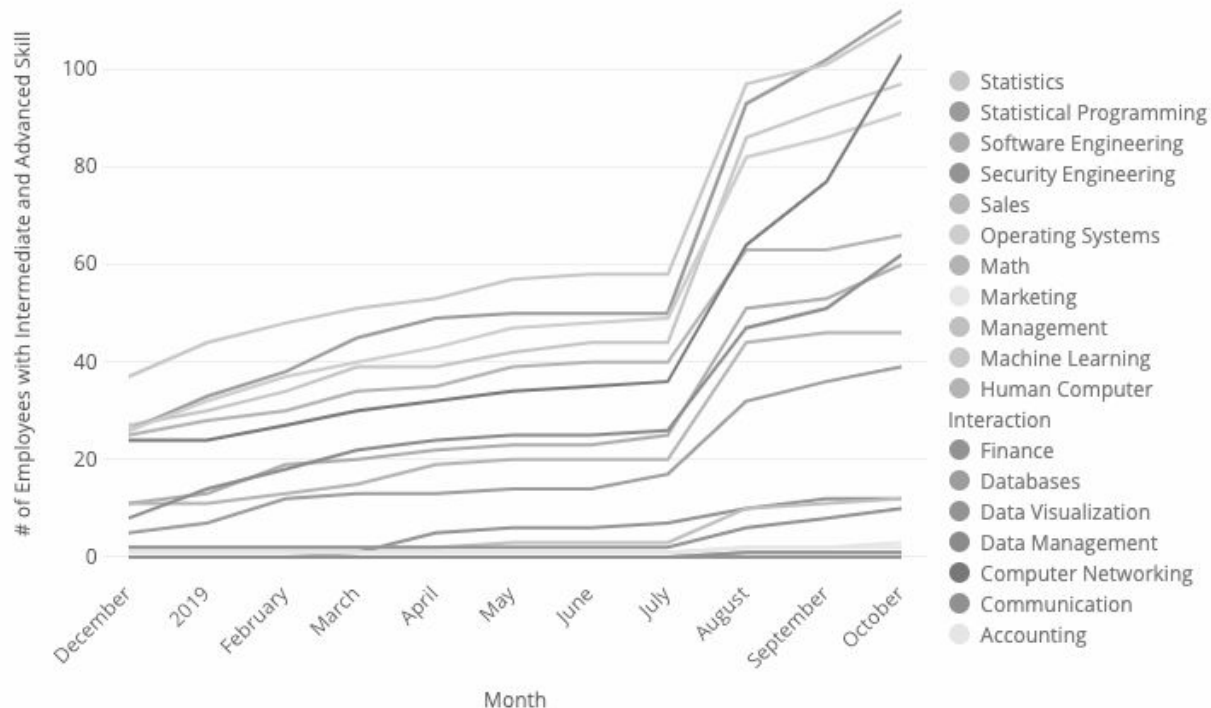


Discover the top learners in your organization for different skills and proficiency levels



Understand how competitive your talent is, with industry benchmarks

## Skill Mastery Over Time



### WHAT IT DOES

See how many of your learners have reached the Intermediate and Advanced levels of mastery over time, by skill.

## Why does this matter?

See if your learners are tracking toward mastering the skills they need

Identify lagging skill areas that may need additional growth and investment

Understand if your learning engagement strategy is effective

Focus on opttys to introduce new content to acquire the skills your business needs

## How is this calculated?

Total number of people who have reached, for a given skill, either an intermediate or advanced level, over time.

# Curate

## 1. Understand your skills and roles

### Roles

Engineer  
Analyst  
Manager  
Data Scientist

### Skills

Data analysis  
Storytelling  
AI & Machine Learning  
Emotional intelligence  
Negotiation  
Influencing

## 2. Map to content

Data Scientist



AI & Machine Learning



Advanced Machine  
Learning and Signal  
Processing

## 3. Review and refine

**Course:** Advanced  
Machine Learning and  
Signal Processing

**Feedback:** too advanced,  
need intro to machine  
learning

**Replace with:** Introduction  
to Machine Learning

## 4. Launch your program

Data Leadership Program

AI & Machine Learning  
for Data Scientists

Data for Everyone

Introduction to Business  
Analytics

Data Analytics for Data  
Professionals

# Learn

## Key Elements to Successful Learning Program

### Executive Sponsorship

Exec need to be roll-modelling the expected behaviour for the rest of the organisation

### Change management

Include leaders, managers, L&D and business units to maximise success. Focus on the 'why'

### Communication plan

The once and done approach does not work. Comms need to be continual and creative (i.e. multi-channel) to drive sustained engagement

### Workplace changes

Learning needs to become part of the everyday, for example time blocked out in calendars for learning

### Community

Publically celebrate early adopters and bring them onboard as evangelists. Create study groups to drive community

# Take-A-Ways

## Download the Playbook

<https://www.coursera.org/business/essential-skills-playbook/>

\*Available Nov. 13th



## Address the **four** challenges

### Companies that are upskilling for digital transformation face four challenges.

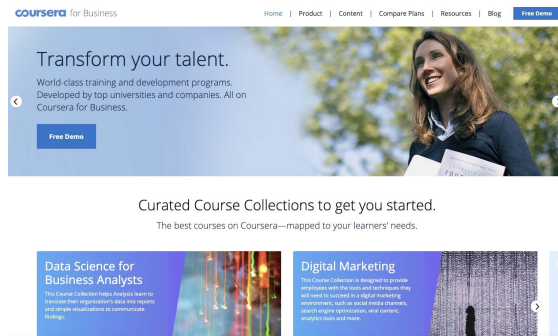
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## Contact [Coursera](#) for help



Visit [www.coursera.org/business](https://www.coursera.org/business) to learn more.

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Q&A

